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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,450	01/19/2007	Ken Takahashi	4386.74850	2440

24978 7590 10/13/2010

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EXAMINER	
KNABLE, GEOFFREY L	
ART UNIT	PAPER NUMBER
1747	
MAIL DATE	DELIVERY MODE
10/13/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,450	TAKAHASHI ET AL.	
	Examiner	Art Unit	
	Geoffrey L. Knable	1747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/9/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 9-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 9, lines 3-4, the phrase "apparatus is manufacturing steps..." is awkward and confusing.

In the last line of claim 10, it appears that "sais" should be "said".

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/01543 to Nguyen et al. taken in view of the admitted state of the prior art and at least one of [Poque et al. (US 4,284,117) and Breny (US 5,437,321)].

WO '543 discloses a tire including an inner radial ply layer (38) reinforced with steel cords (41) and another (radial) ply layer (40) positioned over the inner radial ply and reinforced with organic fibers (e.g. page 14, lines 24-28), this ply layer reading on the claimed "shape retaining layer". As to the cord angles, WO '543 suggests that the cords of the two plies are at 65-90 degrees and preferably are radial plies at about 90 degrees (with specifically described angle ranges of 75-105/82-98/88-92 - note page 14, lines 1-4 and page 16, lines 21-28). As to the bead cores being axially outside the ends of the shape retaining layer, WO '543 teaches that the ends of the outer ply (40) are in proximity to the bead cores and can terminate axially adjacent a side of or above the bead core without being turned up around the bead core - note esp. page 17, lines 6-15 as well as page 12, lines 24-28. WO '543 does not however specifically describe how

the tire is formed and does not specifically describe whether the cords in the two radial plies are crossed. Building a tire carcass band initially as a cylindrical band by wrapping the plies on a cylindrical drum is however a well known and typical tire building process as exemplified by the admitted state of the prior art in paragraph 2 on pages 1-2 of the specification. To build the WO '543 tire carcass as a cylindrical band would therefore have been obvious in this art. Given that the outer carcass ply (40) can end above or adjacent a side of the bead core without turning-up around the bead core, the ordinary artisan would have understood that the bead cores can be positioned in such instance axially outside the ends of the ply (40) consistent with the new claim requirements. As to the cords in the ply crossing each other, in view of Poque et al. (esp. col. 1, lines 10-22) and Breny (esp. col. 2, lines 36-49), it is apparent that it is well known, typical and desirable in two ply radial carcass constructions to provide the cords in each ply in a crossing relationship, this also providing the expected advantage of avoiding the cords of one ply from slipping between the cords of the other ply during shaping. To provide the cords of the two plies in WO '543 in a crossing relationship would therefore have been obvious to the ordinary artisan. The reference to a tire "for a construction vehicle" in the preamble does not distinguish the reference method as it merely defines the intended use of the final product and in any event it is also noted that the WO '543 tire can be a truck tire (page 12, lines 9-10) which certainly is capable of use on a "construction vehicle." A process as required by claim 1 would therefore have been obvious. Additionally toroidally shaping (which necessarily requires that the ends of the carcass are pulled axially inward) and curing (including without auxiliary shape retaining

apparatus) as defined in claim 10 would likewise have been understood as typical and obvious.

As to claims 2 and 11, angle ranges consistent with the claimed range are taught by WO '543 as already noted. Further, in providing the ply (40) terminating above/adjacent the bead core without turning up, the artisan would have found it obvious that the ply have a width slightly smaller than 100% of the space between beads. As to claims 3 and 12, cords of the ply (38) at substantially 90 degrees are taught as already noted and additional organic plies can be provided either in the form of (1) additional outer organic plies (e.g. page 17, lines 1-5) (for which crossing cords between plies would have been obvious for the same reason noted above) or (2) an organic fiber (aramid) belt layer (e.g. page 13, lines 7-19) whose cords would cross the cords of the ply (40). As to claims 4 and 13, a small crossing angle of the cords in the two radial plies (38/40) well within the claimed range would have been obvious for the same reasons already detailed above. As to claims 5 and 14, again, the relatively low angled and narrower width organic (aramid) belt would satisfy the claimed requirements for the second shape retaining layer. As to claims 6 and 15, the width of a belt layer relative to the bead spacing in typical tires would reasonably render obvious values within the claimed range for the second shape retaining layer. While the specific tire in fig. 2 may have a belt width at or slightly above the upper end of the claimed range, this depiction is directed to a low profile tire (e.g. page 24, lines 14-17), it being reasonably expected that the relative size of the belt to the bead spacing would be smaller for higher profile tires (to which the invention is also applicable - e.g. page 7, lines 8-13).

As to claims 7 and 16, a small crossing angle within the claimed range in the radial plies would have been obvious for the same reasons already noted above. As to the crossing angle of the second shape layer, as the belt plies are suggested to be at typical relatively low bias angles to the equator (e.g. 20-28 degrees at page 13, lines 7-11) which would be 62-70 degrees to the radial direction, an angle for the second shape layer relative to the radial carcass ply cords within the claimed range would have been obvious. As to claim 8, a tire would likewise have been obvious for the same reasons advanced with respect to the respective method claims. As to claim 9, the crossed cord ply would help avoid widening of the steel cords in the same manner as in applicant's invention.

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendments to the claims.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 7/9/2010 also prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1747

G. Knable
October 11, 2010